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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,910	07/07/2003	Ming Hong Kuo	FP9517	4316
52981	7590	05/05/2006	EXAMINER	
LEONG C LEI PMB # 1008 1867 YGNACIO VALLEY ROAD WALNUT CREEK, CA 94598			SHARMA, RASHMI K	
			ART UNIT	PAPER NUMBER
			3651	

DATE MAILED: 05/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/612,910	KUO, MING HONG	
	Examiner	Art Unit	
	Rashmi K. Sharma	3651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claim 15 is objected to because of the following informalities: it appears that line 3 should recite "...resistant plastic...". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 recites "...acid/ackali...". This term deems the claim vague and indefinite. The spelling error aside, exactly what does the Applicant intend to be claiming when using this recitation? Further clarification and correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuo (U.S. Patent number 6,637,585) in view of Bernreuther et al. (U.S. Patent number 5,521,478).

Kuo discloses a transporting device for a vertical-type thin circuit board etching machine comprising:

- a base plate including a flat plate (100) and a seamless rigid rail (defined by the inner portion of 400 between the two outer rollers);
- a transmission shaft (500) provided with worm threads (see Figures 3 & 4);
- a plurality of worm gears (210) engaged with the worm threads of the transmission shaft (500);
- a plurality of vertical shafts (see Figures 3-6) each having an upper end (area around 500 in Figures 3-6) engaged with a respective one of the worm gears (210) whereby the vertical shafts each have a lower end (see Figure 4) extending downwardly into the flat plate (100);
- a plurality of support rollers (202 & 203) mounted on the vertical shafts;
- a plurality of soft transmission clip rollers (230 or the rollers directly above 230 as shown in Figure 4) each mounted on a lower end of a respective one of the vertical shafts, wherein the soft transmission clip rollers are positioned above the rigid rail (400);
- whereby a circuit board (700) is transmitted the soft transmission clip rollers, the circuit board (700) will be guided by the rigid rail (400) thereby enabling

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the circuit board (700) to move smoothly along the rigid rail (400) without causing damage to a lower edge of the circuit board (700);

- wherein the flat plate (100) is provided with a plurality of protruded shaft hole seats (102) each adapted to receive the lower end of the vertical shafts.

Kuo as disclosed above, fails to explicitly show an electric motor connected to the transmission shaft.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to replace Kuo's power source with an electric motor connected to the transmission shaft, as disclosed in Bernreuther et al. in order to provide for an alternate power source.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuo (U.S. Patent number 6,637,585) in view of Bernreuther et al. (U.S. Patent number 5,521,478) and Romling et al. (US Patent number 4,778,479).

Kuo as disclosed above fails to show the rigid rail being made of anti-corrosive material comprising glass and acid resistant plastic.

Romling et al. does teach glass (read column 2 line 29 and column 4 line 50) and acid resistant plastic (read claim 4) being anti-corrosive materials.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the rail and/or all of the parts of the transporting device etching machine to be made of an anti-corrosive material as discussed in Kuo's invention in order to protect these parts from the corrosive agents being sprayed onto the circuit boards as they are being conveyed. Since Kuo's invention also conveys

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circuit boards, it would further be obvious to provide a rail that would be made of accommodating materials such as glass or acid resistant plastic as taught by Romling et al. to aid the circuit board processing and conveyance. Any anti-corrosive material would be obvious to use give the conveying environment.

Response to Arguments

Applicant's arguments filed 2/23/06 have been fully considered but they are not persuasive.

Applicant fails to provide any substantive arguments with regard to new claims 13-15, other than "It is evident that neither Kuo (U.S. Patent number 6,637,585) nor Bernreuther et al. (U.S. Patent number 5,521,478) teaches or suggest a seamless rail made of anti-corrosive rigid material to prevent scratching at the edge of the circuit board.". The rail as rejected above is indeed seamless. Each and every claim limitation of claims 13-15 is met by Kuo, Bernreuther et. al. and Romling et al., and the references combined together do indeed disclose each and every claim limitation and would therefore have been obvious to one having ordinary skill in the art.

Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

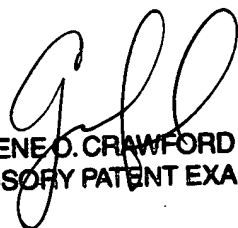
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rashmi K. Sharma whose telephone number is 571-272-6918. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Crawford can be reached on 571-272-6911. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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GENE O. CRAWFORD
SUPERVISORY PATENT EXAMINER